# California Regional Water Quality Control Board
## San Francisco Bay Region

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Arnold Schwarzenegger
*Governor*


Date: JUN 01 2007
File: 2199.9285(EWS)

N00236.002952
ALAMEDA POINT
SSIC NO. 5090.3

Department of the Navy
Base Realignment and Closure Program Management Office West
ATTN: Thomas L. Macchiarella
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San Diego, CA 92108-4310

**Subject: Comments on the Draft Record of Decision for Installation Restoration Site 28, Todd Shipyards, Alameda Point, Alameda, California**

Dear Mr. Macchiarella:

Upon review of the subject document we have the following comments:

### General Comments

1. *Cannot calculate attenuation in tidally mixed zone*

Due to the very dynamic and complex nature of the subsurface environment in the tidal mixing zone, we believe it is too difficult to calculate an attenuation factor. As such, we will not consider attenuation within the tidally mixed zone at the shoreline. Furthermore, studies at other Navy facilities (e.g. Hunter's Point) have shown no attenuation of contaminants in the tidal mixing zone. Therefore, our position remains that the Navy's approach at IR Site 28 to consider attenuation of copper between the shoreline well 28SW03 and the Oakland Inner Harbor may not be protective of aquatic receptors.

2. *Compliance assessment in tidal mixing zone*

There is continuing disagreement between the Navy and the regulatory agencies regarding the appropriate method of assessing copper contamination at Site 28. These concerns have been expressed to the Navy since the regulatory agencies reviewed the Draft Feasibility Study. While a Tech Memo[1] was issued by the Navy in an attempt to resolve our concerns, we still do not agree with the Navy's approach as demonstrated in our comments previously submitted on the Tech Memo[2],as well as the Draft Data Gaps Sampling Workplan[3].

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1 Navy. 2007. "*Final Technical Memorandum to Supplement the Administrative Record for Installation Restoration Site 28, Todd Shipyards, Alameda Point, Alameda, California.*" January 15.

2 Water Board. 2006. Letter to Navy commenting on the "*Draft Technical Memorandum to Supplement the Administrative Record for Installation Restoration Site 28, Todd Shipyards, Alameda Point, Alameda, California.*" October 23.

3 Water Board. 2007. Letter to Navy commenting on the "*Draft Workplan for Data Gap Sampling Investigation Installation Restoration Site 28, Alameda Point, Alameda, California.*" April 3.

We do agree with the Navy that CTR criteria are not appropriately applied to inland groundwater at Site 28. We further agree that CTR criteria are applicable where groundwater discharges from Site 28 to the Oakland Inner Harbor. While we agree on these points, we still require the Navy to demonstrate that aquatic receptors in the Oakland Inner Harbor are adequately protected by selecting an acceptable method for evaluating compliance with CTR criteria at the point of compliance.

Where contamination persists within the tidal mixing zone, groundwater remediation goals should then include consideration of the Environmental Screening Levels[4] (ESLs), as they include consideration of groundwater discharge to marine or estuary waters and are considered protective of aquatic receptors. Remediation goals should also include CTR criteria[6] at the groundwater/surface water interface. Because we won't allow for any attenuation in the tidal mixing zone, as discussed in General Comment #1 above, compliance with CTR criteria at the groundwater/surface water interface can be assessed in monitoring wells installed down-gradient of known contamination and as close to the Oakland Inner Harbor as possible.

Thus, to ensure that aquatic receptors are protected in areas where groundwater contaminants could potentially discharge to surface water, these wells need to be installed as close as possible to the groundwater/surface water interface and monitored to ensure that CTR criteria are not exceeded in those wells. Furthermore, inland groundwater that is influenced by tidal mixing needs to be remediated to below screening levels as identified in Table B of the ESLs.

### 3. *Determination of tidal mixing zone extent*

In order to determine the extent of the tidally mixed zone, a seawater intrusion or tidal mixing study needs to be conducted at the site to determine the extent to which groundwater contaminants may be in communication with the Oakland Inner Harbor. As the tidal mixing study for OU-5 includes wells at IR Site 28, we recommend that the OU-5 study design be optimized to ensure that adequate data is collected at Site 28 to determine the extent of the tidal mixing zone.

### 4. *Potential for arsenic migration to surface water*

In previous comments sent to you[2] we were unable to agree with the Navy's claim that the elevated concentration of arsenic in the groundwater is effectively bounded down gradient and toward the Oakland Inner Harbor. In response to our comments, the Navy included sampling in the Draft Data Gap Sampling Work Plan[6] to evaluate the potential for arsenic migration from the inland well to the Oakland Inner Harbor. Because the Navy has not yet demonstrated that the migration of arsenic in soil and groundwater does not have the potential to impact aquatic receptors, and this data gap won't be filled until the Data Gap Sampling is complete, our position remains that an arsenic remediation goal in groundwater is necessary in the Record of Decision (ROD).

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4 Water Board. 2005. "*Screening for Environmental concerns at Sites with Contaminated Soil and Groundwater.*" Interim Final – February.

5 *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of* California (Federal Register, Volume 65, Number 97, 18 May 2000).

6 ITSI. 2007. "*Draft Workplan for Data Gap Sampling Investigation Installation Restoration Site 28, Alameda Point, Alameda, California.*" January 29.

With an understanding then that this may continue to be an issue, we negotiated with the Navy during the development of the Proposed Plan[7] to leave the option open for developing a remediation goal for arsenic in the ROD. Considering that the potential migration of arsenic is still unresolved, we expected a remediation goal for arsenic to be included in this document. Please revise the Record of Decision to include a remediation goal for arsenic in groundwater.

## Specific Comments

1. *Section 2.1* - Include reference to the 1902 railroad fire that occurred at the site in the discussion of site history.

2. *Page 2-4, Section 2.2.1.4 - Technical Memorandum, 2007, bottom paragraph* –The Point of Measurement and Point of Compliance issue needs to be resolved here, based on resolution of general comments above.

3. *Section 5.3 - Nature and Extent of Contamination in Soil and Groundwater* – The following comments pertain to this section:
   - Clarify if ecological risk assessment included evaluation of arsenic from the inland well area reaching the Oakland Inner Harbor. Include discussion regarding the Data Gap Sampling effort that will evaluate the nature and extent of arsenic between the inland well area (28SW04) and the shoreline.
   - This section compares constituent concentrations with Industrial and Residential PRGs only. Please include comparison with Table B ESLs for shoreline wells that are tidally influenced. See General Comments above.
   - Revise Tables 5-1 and 5-2 in this document to include screening levels presented in Table B of the ESLs.
   - The bulleted items on page 5-3 should include arsenic in groundwater as it was identified in the final RI as a chemical of concern.
   - Page 5-4 - summary of detected copper concentrations is incorrect. It seems as though only 2002 data were used in compiling the concentration ranges detected at site 28. Please revise section to ensure concentration ranges for all constituents are correct. Range of detected concentrations in Table 5-2 also seems to refer to only the 2002 data. Please revise all tables in this document to ensure that all data is used in compiling the range of detected concentrations for all constituents.

4. *Figure 6-1* - The text discussed the proposed future land use as open space or recreational, whereas this Alameda Point Reuse Map clearly shows that Site 28 has three different proposed reuse area, including Parks and Public Open Space, Public/Institutional/school, and General Industry. These specific reuses are not clearly discussed in the text of the draft report. Please clarify.

5. *Page 8-1, Section 8.0 - Remedial Action Objectives* - The data gap sampling effort at Site 28 includes evaluation of the potential for arsenic from the inland well area to migrate to the Oakland Inner Harbor. Because of this current data gap associated with arsenic in

7 Navy. 2006. "*Proposed Plan for Site 28, Todd Shipyards, Alameda Point, Alameda, California.*" March 27.

groundwater, there needs to be a remediation goal included here for Arsenic in groundwater. Arsenic must meet CTR criteria at the groundwater/surface water interface. See General Comment #4.

6. *Page 12-3, Section 12.2.1 – Soil – Removal and Disposal of Soil (Upper 2 feet) and ICs* – This section specifies that "concentrations of COCs below a depth of 2 feet bgs may or may not present a risk to a residential receptor, however, ICs will be implemented as a component of the soil remedy to restrict residential reuse and limit land disturbing activities at Site 28." Please specify in this section which COCs will remain in place below 2 feet bgs at what concentrations. Also include discussion regarding how future human and ecological land users will be protected after the estimated 30 year duration of the institutional controls comes to an end.

Please contact me at (510) 622-2355 or email ersimon@waterboards.ca.gov if you have any questions.

Sincerely,

Erich Simon
Project Manager

CC (via US Mail and email):

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